

t24_funct_5 (TMWFc- grTEhmWuPDLeJr77L4mniLtgyKsm5i)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_funct_5 : \iota \Rightarrow \iota$ be given. Let $k3_funct_5 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (\neg(X0 = k1_xboole_0) \wedge ((k2_zfmisc_1 X1 X0 = \\ & k1_xboole_0) \wedge (k2_zfmisc_1 X0 X1 = k1_xboole_0))) \Rightarrow ((k9_xtuple_0 \\ & (k2_zfmisc_1 X1 X0) = X1) \wedge (k10_xtuple_0 (k2_zfmisc_1 X0 X1) = X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (k9_xtuple_0 (k3_funct_5 X0) = k10_xtuple_0 (k9_xtuple_0 X0)) \quad (2)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (k1_funct_5 X0)) \wedge (v1_funct_1 (k1_funct_5 X0))) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. ((\\ & v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X1 = k1_funct_5 X0) \Leftrightarrow ((k9_xtuple_0 \\ & X1 = k9_xtuple_0 (k9_xtuple_0 X0)) \wedge (\forall X2. \neg(X2 \in k9_xtuple_0 \\ & (k9_xtuple_0 X0)) \wedge (\forall X3. ((v1_relat_1 X3) \wedge (v1_funct_1 \\ & X3)) \Rightarrow (\neg(k1_funct_1 X1 X2 = X3) \wedge ((k9_xtuple_0 X3 = k10_xtuple_0 \\ & (k3_xboole_0 (k9_xtuple_0 X0) (k2_zfmisc_1 (k1_tarski X2) (k10_xtuple_0 \\ & (k9_xtuple_0 X0)))))) \wedge (\forall X4. (X4 \in k9_xtuple_0 X3) \Rightarrow (k1_funct_1 \\ & X3 X4 = k1_binop_1 X0 X2 X4)))))))))) \end{aligned} \quad (4)$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.((v1_relat_1 X2)\wedge(v1_funct_1 X2))\Rightarrow((k9_xtuple_0 X2 = k2_zfmisc_1 X0 X1)\Rightarrow((k2_zfmisc_1 X0 X1 = k1_xboole_0)\vee((k9_xtuple_0 (k1_funct_5 X2) = X0)\wedge(k9_xtuple_0 (k3_funct_5 X2) = X1))))$$